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Docket No. LPTF06
US App. No. 10/510,195

IN THE CLAIMS:

1. (currently amended) A composite metallic filtering mesh, comprising:

a bottom diffusion mesh and two or more twill weave meshes; an innermost one of the twill weave meshes being fixed on an outer surface of the bottom diffusion mesh, wherein the twill weave meshes are applied in filtrating solid particulates in a fluid and the bottom diffusion mesh is applied in diffusing filtrated fluid; and

at least one inter-layer diffusion mesh positioned between two said twill weave meshes for diffusing filtrated fluid between said two twill weave meshes; the inter-layer diffusion mesh being fixed on an outer surface of one of said two twill weave meshes,

wherein the bottom diffusion mesh is a woven mesh or a punching steel plate mesh with a mesh size of 5-50 mesh; apertures of the twill weave meshes are 40-400 micron; the inter-layer diffusion mesh is a woven mesh with a mesh size of 10-60 mesh.

Claims 2-17. (canceled)

18. (previously presented) The composite metallic filtering mesh according to claim 1, wherein a metal fiber layer is fixed on an outer surface of an outmost one of the twill weave meshes or between two of the inter-layer diffusion meshes; the metal fiber layer is made of weaving metal wires with 0.05-0.30 mm in diameter and the thickness of the metal fiber layer is 3-30 mm.

Claims 19-20. (canceled)

21. (previously presented) The sand control screen pipe according to claim 26, wherein a metal fiber layer is fixed on an outer surface of an outmost one of the twill weave meshes or between the inter-layer diffusion meshes; the metal fiber layer is made of weaving metal wires with 0.05-0.30 mm in diameter and the thickness of the metal fiber layer is 3-30 mm.

Claim 22. (canceled)

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23. (previously presented) The sand control screen pipe according to claim 26, wherein two or more supporting blocks are provided on the outer surface of the pipe body in order to make the sand control screen pipe be placed in the middle center while dropping down into a well.

24. (currently amended) A sand control screen pipe, comprising:

a composite metallic filtering mesh, a multi-holes base pipe, an inner protective shroud, a plurality of supporting rings of the inner protective shroud, and an inner pipe;

wherein the composite metallic filtering mesh comprises a bottom diffusion mesh, two or more twill weave meshes; and at least one inter-layer diffusion mesh positioned between two twill weave meshes; wherein the bottom diffusion mesh is a woven mesh or a punching steel plate mesh with a mesh size of 5-50 mesh; apertures of the twill weave mesh are 40-400 micron; the inter-layer diffusion mesh is a woven mesh with a mesh size of 10-60 mesh; the composite metallic filtering mesh is fixed on the inner side of the multi-holes base pipe, and completely covers all through holes on the multi-holes base pipe; the inner protective shroud has petroleum-seeping holes, and is fixed on the inner side of the composite metallic filtering mesh and completely covers the composite metallic filtering mesh; the supporting rings of the inner protective shroud are fixed on both ends of the inner side of the multi-holes base pipe; the two ends of the inner protective shroud along the axial direction of the multi-holes base pipe are fixed respectively on the supporting rings; the inner pipe is fixed on the inner side of the inner protective shroud.

Claim 25. (canceled)

26. (currently amended) A sand control screen pipe, comprising:

a pipe body with through holes, wherein a pair of first supporting rings, a pair of ring hoops corresponding to the first supporting rings, and a pair of second supporting rings are formed on the pipe body;

a tubular inner protective shroud with through holes distributed on its surface, disposed on the pipe body and covering over the through holes of the pipe body, two ends of the tubular inner protective shroud being fixed to the pair of first supporting rings, respectively;

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a composite metallic filtering mesh, wherein the composite metallic filtering mesh is fixed to an outer surface of the tubular inner protective shroud and its two ends are hermetically fixed between the first supporting rings and the ring hoops, respectively; and

an outer protective sleeve with through holes, disposed over the composite metallic filtering mesh and its two ends being fixed to the pair of second supporting rings, respectively;

wherein the composite metallic filtering mesh comprises: a bottom diffusion mesh and two or more twill weave meshes; an innermost one of the twill weave meshes being fixed on an outer surface of the bottom diffusion mesh; and at least one inter-layer diffusion mesh positioned between two twill weave meshes; wherein the bottom diffusion mesh is a woven mesh or a punching steel plate mesh with a mesh size of 5-50 mesh; apertures of the twill weave mesh are 40-400 micron; the inter-layer diffusion mesh is a woven mesh with a mesh size of 10-60 mesh.